specimens, in which, moreover, the lower extremity of the body-cavity is open; but it is entirely wanting in the well-preserved individuals described. In the latter the lower extremity of the body-cavity, which is divided into 12 chambers, is closed by a distinct floor, which surrounds the anus, and is divided by the 12 septa into the same number of segments. In each of these segments, in *Fenja*, there is an exceedingly fine oval aperture, partly covered by a fold; both the floor and the aperture are clothed with epithelium. Here, consequently, there can be no question of tearing away.

"As regards *Ægir*, here also the described animals were quite uninjured. Some specimens were torn by the dredge, but could be distinguished from the uninjured ones without any difficulty. In *Ægir* the body-cavity is likewise divided into 12 chambers by 12 septa, which reach to the floor, where they are firmly attached, and which they consequently divide into 12 segments surrounding the anus. At the lower end of the rectum in this animal there are fissures through which the chambers of the body-cavity communicate with the rectum. These fissures do not extend to the anus, but terminate some millimetres above it and are clothed with epithelium. During the observation of living animals I frequently saw tolerably long, solid masses of excrement discharged from the anus, after which the aperture contracted again. In *Ægir* consequently there can be no question of mutilation."—*Sitzungsber. Gesellschaft Naturf. Freunde zu Berlin*, 1889, pp. 55 and 99.

On the Anatomy and Developmental History of Petromyzon Planeri. By M. K. Nestler.

Investigations upon *Petromyzon Planeri* made by the author in Prof. Leuckart's laboratory have revealed some interesting facts, especially with regard to the development of the definitive œsophagus during the metamorphosis. Dr. Schneider, in his "Contributions to the Comparative Anatomy and Developmental History of the Vertebrata," states that the œsophagus is produced as a new formation, an invagination originating from the anterior extremity of the intestinal fold, continuing forwards the mesenterial fold of the stomach, and running into the dorsal margin of the branchial cavity. Although at first hollow, this soon becomes solid, and then extends, as a solid cellular cord, to the velum. The latter thus furnishes not only the epithelium, but also the mucous membrane and musculature of the œsophagus.

The author's investigations led to different results. The œsophagus really originates as a *solid cord*, but its cells furnish *only the epithelium* of the definitive œsophagus, the central cell-material being absorbed; *the musculature originates from the surrounding connective tissue.*

Moreover the œsophagus is not formed as an invagination from the anterior extremity of the intestinal fold, but *as a pad-like epithelial growth along the lower border of the dorsal fold in the branchial space*, which, being afterwards constricted off at its base by the surrounding connective tissue, becomes a solid cellular cord running in the depths of the fold. The starting-point of the whole new formation is certainly the spot at the end of the branchial space where the entrance to the stomach is closed by the thickening of the lips surrounding it.—*Zool. Anzeiger*, January 13, 1890, p. 11.

The Amphipoda of the Boulonnais.—I. Unciola crenatipalmata, *Spence Bate*. By M. Jules Bonnier.

In this paper, which is illustrated by two plates, the author gives a detailed description of the Amphipod Crustacean first described by Gosse as identical with the *Unciola irrorata* of Say, and afterwards recognized as distinct by Spence Bate and described by him under the name of *Dryope crenatipalmata*. The author discusses at some length the characters presented by the species, and gives the following series of tables to serve for its identification :—

I. Amphipoda.

- Pleon well developed.
  - Six pairs of pleopods.
    - Maxilliped well developed.
      - Maxilliped rudimentary ..... HYPERINA.
      - Sixth pleopod with an endopodite.... GAMMARINA.
      - Sixth pleopod with no endopodite.... COROPHINA.
      - Fifth and sixth pleopods without endopodites..... CERAPINA.
  - Five pairs of pleopods ..... DULICHINA.
- Pleon rudimentary ..... LÆMODIPODA.

II. Corophina.

- Mandibular palpus wanting ..... Orchestiidæ.
- Mandibular palpus of two or three joints.
  - Coxopodites of the pereiopods broadly developed.
    - Joints 2 and 3 of the maxilliped narrow. Stenothoidæ.
    - Joints 2 and 3 of the maxilliped lamellar ..... Microprotopidæ.
  - Coxopodites of the pereiopods narrow and not well developed ..... Corophiidæ.